

Amendment Under 37 C.F.R. § 1.116
U.S. Application No.: 10/760,487

Atty Dkt No.: 71048.00168
Customer No. 35161

AMENDMENTS TO THE CLAIMS:

1-13. (Canceled)

14. (Previously presented) A ballast system comprising:

a wastewater treatment system for receiving and treating wastewater;

a wastewater ballast tank for storing the treated wastewater as ballast;

a ballast discharge system for discharging the treated wastewater from said
wastewater ballast tank;

a monitoring unit for testing the treated wastewater;

a disinfection unit for disinfecting the treated wastewater that is stored in said
wastewater ballast tank;

a pump for circulating the stored, treated wastewater through said disinfection unit;
and

a control system, wherein the control system controls operation of said wastewater
treatment system, said ballast discharge system, said monitoring unit, said disinfection unit,
and said pump.

15. (Canceled)

Amendment Under 37 C.F.R. § 1.116
U.S. Application No.: 10/760,487

Atty Dkt No.: 71048.00168
Customer No. 35161

16. (Previously presented) A contingency ballast method comprising: :

- treating wastewater;
- storing treated wastewater;
- testing the treated wastewater;
- taking in non-local or non-regional seawater as ballast at sea;
- discharging said non-local or non-regional seawater ballast upon entering local or regional waters;
- taking in local or regional seawater as ballast upon entering said local or regional waters;
- discharging the treated wastewater during ballast operations when the treated wastewater meets testing thresholds;
- discharging said local or regional seawater ballast during in-port ballast operations when the treated wastewater does not meet testing thresholds.

17. (Previously presented) The ballast system of claim 14, wherein said wastewater treatment system comprises:

- a sludge and particulate removal system; and
- a decontamination unit.

Amendment Under 37 C.F.R. § 1.116
U.S. Application No.: 10/760,487

Atty Dkt No.: 71048.00168
Customer No. 35161

18. (Previously presented) The ballast system of claim 14, further comprising:
at least one seawater ballast tank for receiving, holding, and discharging seawater ballast; and
at least one sample port for testing the treated wastewater prior to discharge.
19. (Previously presented) The ballast system of claim 14, wherein said disinfection unit comprises an ultraviolet treatment unit.
20. (Previously presented) The contingency ballast method of claim 16, wherein the step of treating said wastewater comprises:
filtering the wastewater to remove sludge and particulate matter; and
decontaminating said wastewater to destroy fecal coliforms, bacteria, and pathogens.
21. (Previously presented) The contingency ballast method of claim 20, wherein the step of decontaminating said wastewater comprises:
dosing said wastewater with electromagnetic radiation.
22. (Previously presented) The contingency ballast method of claim 16, further comprising:

Amendment Under 37 C.F.R. § 1.116
U.S. Application No.: 10/760,487

Atty Dkt No.: 71048.00168
Customer No. 35161

retreating said treated wastewater when the tested wastewater does not meet predetermined thresholds.

23. (Previously presented) The contingency ballast method of claim 16, further comprising:

sampling said treated wastewater; and
testing samples of said treated wastewater.

24. (Previously presented) The contingency ballast method of claim 16, further comprising:

retreating said stored treated wastewater.

25. (Previously presented) The contingency ballast method of claim 16, wherein the step of storing said treated wastewater comprises:

circulating the stored wastewater through a disinfection unit to destroy fecal coliforms, bacteria, and other pathogens.

26. (Currently amended) A wastewater ballast method comprising the steps in the order of:

Amendment Under 37 C.F.R. § 1.116
U.S. Application No.: 10/760,487

Atty Dkt No.: 71048.00168
Customer No. 35161

collecting wastewater generated during operation of a vessel;

filtering said wastewater;

treating said filtered wastewater to meet ~~applicable regulatory~~ predetermined
regulatory standards;

storing said treated wastewater in a wastewater ballast tank;

transferring said treated wastewater to a discharge unit; and

discharging said treated wastewater from said vessel.

27. (Previously presented) The wastewater ballast method of claim 26, further comprising:

monitoring said treated wastewater using a monitoring unit prior to said storing step.

28. (Previously presented) The wastewater ballast method of claim 27, wherein said monitoring unit includes a turbidity monitor to measure a turbidity of said treated wastewater.

29. (Previously presented) The wastewater ballast method of claim 26, wherein said treated wastewater is discharged one of overboard and at a disposal facility ashore.

Amendment Under 37 C.F.R. § 1.116
U.S. Application No.: 10/760,487

Atty Dkt No.: 71048.00168
Customer No. 35161

30. (Previously presented) The wastewater ballast method of claim 27, wherein said monitoring step includes:

monitoring said treated wastewater to ensure that said treated wastewater meets predetermined thresholds before storing said treated wastewater in said wastewater ballast tank.

31. (Previously presented) The wastewater ballast method of claim 30, wherein when said treated wastewater does not meet said predetermined thresholds, said filtering and treating step is repeated.

32. (Currently amended) The wastewater ballast method of claim 26, wherein said filtering and treating step includes ensuring that said wastewater meets applicable predetermined regulatory federal, state, and local environmental, health and regulatory requirements.

33. (Previously presented) The wastewater ballast method of claim 26, wherein said filtering and treatment step includes decontaminating said filtered wastewater using electromagnetic radiation.

Amendment Under 37 C.F.R. § 1.116
U.S. Application No.: 10/760,487

Atty Dkt No.: 71048.00168
Customer No. 35161

34. (Previously presented) The wastewater ballast method of claim 26, further comprising:

recirculating said treated wastewater through a first disinfection unit.

35. (Previously presented) The wastewater ballast method of claim 34, wherein said first disinfection unit comprises one of an ultraviolet disinfection unit and a non-chemical disinfectant.

36. (Previously presented) The wastewater ballast method of claim 35, further comprising:

refiltering and retreating said treated wastewater from said wastewater ballast tank.

37. (Previously presented) The wastewater ballast method of claim 34, further comprising:

disinfecting said treated wastewater from said wastewater ballast tank using a second disinfection unit.

38. (Previously presented) The wastewater ballast method of claim 37, wherein said second disinfection unit comprises one of an ultraviolet disinfection unit and a non-chemical disinfectant.

Amendment Under 37 C.F.R. § 1.116
U.S. Application No.: 10/760,487

Atty Dkt No.: 71048.00168
Customer No. 35161

39. (Previously presented) The wastewater ballast method of claim 37, wherein said second disinfection unit includes a wastewater ballast discharge unit.

40. (Currently amended) The wastewater ballast method of claim 26, further comprising:

sampling said treated wastewater after said filtering and treating step, for compliance with ~~applicable federal, state, and local environmental, health and regulator~~ predetermined regulatory requirements.

41. (Currently amended) The wastewater ballast method of claim 27, further comprising:

sampling said treated wastewater after said monitoring step, for compliance with ~~applicable federal, state, and local environmental, health and regulatory~~ predetermined regulatory requirements.

42. (Currently amended) The wastewater ballast method of claim 34, further comprising:

Amendment Under 37 C.F.R. § 1.116
U.S. Application No.: 10/760,487

Atty Dkt No.: 71048.00168
Customer No. 35161

sampling said treated wastewater after said recirculating step, for compliance with
~~applicable federal, state, and local environmental, health and regulatory predetermined~~
regulatory requirements.

43. (Currently amended) The wastewater ballast method of claim 26, further
comprising:

sampling said treated wastewater after said transferring step, for compliance with
~~applicable federal, state, and local environmental, health and regulatory predetermined~~
regulatory requirements.

44. (Currently amended) A wastewater ballast system, comprising:

a filtering unit for filtering untreated wastewater from a vessel;

a decontaminating unit for treating said filtered wastewater to meet ~~applicable~~
regulatory predetermined regulatory standards;

a monitoring unit for monitoring said treated wastewater to ensure that said treated
wastewater meets predetermined thresholds;

a wastewater ballast tank for storing said treated wastewater;

a first disinfection unit for disinfecting said treated wastewater in said wastewater
ballast tank;

Amendment Under 37 C.F.R. § 1.116
U.S. Application No.: 10/760,487

Atty Dkt No.: 71048.00168
Customer No. 35161

a wastewater ballast discharge unit for discharging said treated wastewater from said wastewater ballast tank; and

a sample port for sampling said treated wastewater after at least one of said wastewater treatment unit, said monitoring unit, said wastewater ballast tank, said first disinfection unit, and said wastewater ballast discharge unit, for compliance with ~~applicable federal, state, and local environmental, health and regulatory~~ predetermined regulatory requirements.

45. (Previously presented) The wastewater ballast system of claim 44, wherein said monitoring unit comprises a turbidity monitor to measure a turbidity of said treated wastewater.

46. (Previously presented) The wastewater ballast system of claim 44, wherein said first disinfection unit comprises one of an ultraviolet disinfection unit and a non-chemical disinfectant.

47. (Previously presented) The wastewater ballast system of claim 46, further comprising:

a second disinfection unit for disinfecting said treated wastewater from said wastewater ballast tank.

Amendment Under 37 C.F.R. § 1.116
U.S. Application No.: 10/760,487

Atty Dkt No.: 71048.00168
Customer No. 35161

48. (Previously presented) The wastewater ballast system of claim 46, wherein said second disinfection unit comprises one of an ultraviolet disinfection unit and a non-chemical disinfectant.

49. (Previously presented) The wastewater ballast system of claim 48, wherein said second disinfection unit includes a wastewater ballast discharge unit.

50. (Currently amended) A wastewater ballast system, comprising:

- a filtering unit for filtering untreated wastewater from a vessel;
- a decontaminating unit for treating said filtered wastewater to meet ~~applicable~~ regulatory predetermined regulatory standards;
- a monitoring unit for monitoring said treated wastewater to ensure that said treated wastewater meets predetermined thresholds;
- a wastewater ballast tank for storing said treated wastewater;
- a first disinfection unit for disinfecting said treated wastewater in said wastewater ballast tank;
- a wastewater ballast discharge unit for discharging said treated wastewater from said wastewater ballast tank; and

Amendment Under 37 C.F.R. § 1.116
U.S. Application No.: 10/760,487

Atty Dkt No.: 71048.00168
Customer No. 35161

a sample port for sampling said treated wastewater after at least one of said wastewater treatment unit, said monitoring unit, said wastewater ballast tank, said first disinfection unit, and said wastewater ballast discharge unit, for compliance with ~~applicable federal, state, and local environmental, health and regulatory~~ predetermined regulatory requirements; and

a control system for controlling the operation of at least one of said wastewater treatment unit, said monitoring unit, said first disinfection unit, said wastewater ballast tank, and said wastewater ballast discharge unit.